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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/760,505

01/21/2004

Jiro Hiraiwa

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03/27/2008

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ALEXANDRIA, VA 22314

EXAMINER

ZHENG, LOIS L

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

03/27/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/760,505	Applicant(s) HIRAIWA ET AL.	
	Examiner LOIS ZHENG	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 and 4-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/28/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 28 February 2008 has been entered.

Status of Claims

2. Applicant is advised that the Notice of Allowance mailed 3 December 2007 is vacated in view of the information disclosure statement submitted on 28 February 2008. If the issue fee has already been paid, applicant may request a refund or request that the fee be credited to a deposit account. However, applicant may wait until the application is either found allowable or held abandoned. If allowed, upon receipt of a new Notice of Allowance, applicant may request that the previously submitted issue fee be applied. If abandoned, applicant may request refund or credit to a specified Deposit Account.

Therefore, claims 1-2 and 4-13 are currently under examination.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 28 February 2008 was filed after the mailing date of the Notice of Allowance on 3 December 2007. The

submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2 and 4-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mastrangelo US 3,196,091(Mastrangelo), and further in view of TW 453,508 (TW'508).

Mastrangelo teaches an electrolytic apparatus for the production of fluorine(title), wherein the electrolytic cell comprises cooling coils for the circulation of cooling water (Fig.1 #20, col. 4 lines 30-35) and a heating jacket for heating the electrolytic cell(Fig. 1 #18).

Regarding claims 1-2 and 5-6, the cooling water circulation coils as taught by Mastrangelo reads on the claimed first heat exchange means. The heat jacket as taught by Mastrangelo reads on the claimed secondary heat exchanging means.

However, Mastrangelo does not teach the claimed outer frame sealed and disposed further surrounding the outside of the first heat exchanging means with space and the claimed decompression or vacuum insulating zone which is formed in the outer frame.

TW'508 teaches a protective sheath outside of a heated process chamber wherein the protective jacket comprising a sealed vacuum chamber in order to effectively provide thermal insulation and prevent heat loss(page 5 first full paragraph).

Therefore, it would have been obvious to one of ordinary skill in the art to have incorporated the thermal insulating sheath as taught by TW'508 separately around each of the cooling coils and the heating jacket of Mastrangelo in order to effectively provide thermal insulation and prevent undesirable heat loss or heat gain to the heat exchange means as taught by TW'508.

Regarding claims 9-10, the instant claims are rejected for the same reasons as stated in the rejection of claims 1-2 above. In addition, the cooling coils reads on the claimed jacket configured to heat and/or cool an electrolytic cell body.

Regarding claims 4 and 11, Mastrangelo further teaches the claimed support member comprising a flange part(Fig. 1 the flange where gasket 35 rests on) and an upper lid(Fig. 1 #34), the claimed cover member(Fig. 1 #42), and the claimed electric insulating material(Fig. 1 #41) and a gas sealing material(Fig. 1 #40) disposed between the support member and the cover member.

Regarding claims 7 and 12, Mastrangelo further teaches that its electrolytic cell can be a box with open top(Fig. 3) as claimed.

Regarding claims 8 and 13, the claimed molten salt comprised of hydrogen fluoride is directed to material be worked on by the claimed apparatus, therefore, does not render the instant apparatus claims patentable. See MPEP 2115[R-2].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

LLZ